denver apple pi Seed

VOLUME 5 NUMBER 11

NEWSLETTER OF THE DENVER APPLE PI COMPUTER USERS' CLUB

'KLUTZ' INSURANCE FOR YOUR APPLE !!

Sure you have insurance for your home, car, and your gold fish. You have Medical Insurance, Dental Insurance, and Life Insurance, not to mention Unemployment Insurance. You are covered for fire, theft, earthquake and flood but what about 'KLUTZ INSURANCE'??? That's right Klutz Insurance for your Apple. The most dangerous thing that your Apple faces is you. Will your Homeowners Insurance cover your computer if you spill a bowl of your famous three alarm chili into the keyboard. What about software ??? Most insurance companies may cover your hardware but not the software. Did that last power surge wipe out your DB Master. Did the disk drive eat your ORCA/M Macro Assembler. Well not to worry...help is here.

Apple Computer Inc. and the Chubb Group of Insurance Companies are now offering 'All Risk' insurance for your Apple and all the goodies that go with it. That's right, all the goodies. It doesn't matter who manufactured or sold any other part of your system: if you have an Apple, then all the other hardware and your software is covered.

What about the Exclusions ??? The new policy will not cover a few things. War, nuclear reaction, wear and tear, rust, freezing, error in programming, delay, loss of use, fraud, error in design, manufacture or workmanship, and data erasure caused by or resulting from magnetic injury or electrical disturbances are not covered.

This new insurance has a $100.00 deductible, but a visit to your local computer store will get you a certificate to cover that $100.00. You can cover up to $ 25,000.00 worth of equipment on this policy for only $50.00 per year. The mimimum coverage is $ 5000.00 for a $25.00 per year. If you buy more goodies for your system during the year they will automatically be covered up to $25000.00 at no extra cost during the term of the policy.

For more information on this new all risk insurance for your Apple you can call the company toll free:

Emitt & Chandler Inc.
99 Osgood Place
San Francisco, CA 94133

1-800-338-2525

OPPS...

Due to an accidental oversight, the files MATH MONSTER and MM.OBJ, which were donated to the Apple Pi library by an Apple Pi member, were used on the October Disk-of-the-Month. Copyright laws prohibit the above files from being placed on a Disk-of-the-Month. We ask that you delete these files from your copy of the October Disk-of-the-month immediately. We regret any inconvience this may have caused.

denver apple pi Seed

APPLE PI
P.O. BOX 17467
DENVER, COLORADO 80217

OFFICERS

PRESIDENT
Dave Eisler . . . . . (303) 694-6217
VICE-PRESIDENT
Bill Dowall . . . . . (303) 469-5638
TREASURER
Dennis Lunt . . . . . (303) 823-6200
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Dave Moger . . . . . (303) 988-0401
Ron Heath . . . . . (303) 238-3019
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$35.00 . . . . . ½ Page
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CIRCULATION OVER 600

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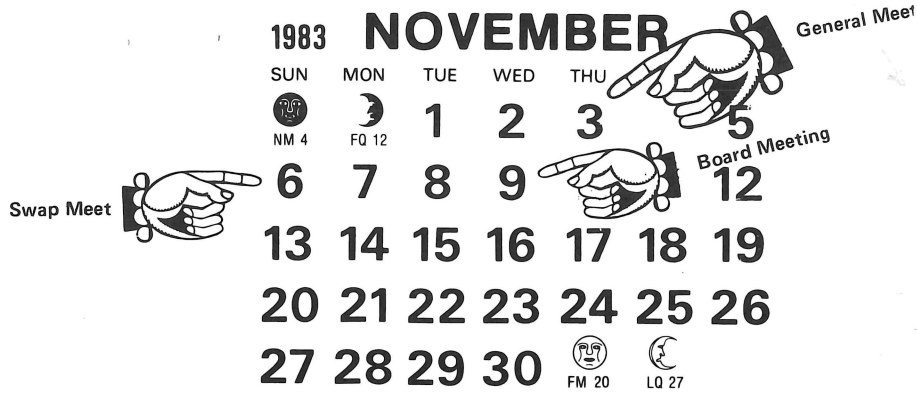


THE NEXT BOARD WILL BE AT

THE NELSON,S HOUSE - 2224 BALSOM, LAKEWOOD

MEMBERSHIP INFORMATION
$10 APPLICATION FEE AND $18 PER YEAR DUES

APPLE PI is an Apple Computer Users Group - not affiliated with Apple Computer, Inc. - that provides many member benefits, some of which are:

MONTHLY MEETINGS-

On the first Thursday of each month at 7:00 p.m. APPLE PI holds its general meeting at the Greene Center, Colorado School of Mines Campus, Golden, Colorado. This meeting is a combination of an informational meeting, new product announcements, and a short business meeting. The members are given an opportunity to buy computer supplies a little above cost. Software products are given away as door prizes.

On the Sunday following the general meeting there is an informal meet which is usually held at the home of a member, the location of which is announced in the newsletter and at the general meeting. This meeting is from 10:00 a.m. until 3:00 p.m. and provides a more informal environment to seek or give advice to fellow members and get copies of programs from the APPLE PI Library. Both of these meetings are open to the general public but only members have access to products that are sold.

PROGRAM LIBRARY-

APPLE PI currently has a library of 8,000 programs. All current disks are in 16 sector (3.3, Pascal, CP/M) format and are available to any member. APPLE PI Members can obtain copies from the library:

1) By coming to the monthly informal meeting (swap meet);
2) By written request to the club librarian (at any meeting or by mail);
3) By electronic mail on APPLE PI's bulletin board system:

When requesting copies, please include the following information:

a) Your Name, Address, and Phone number;
b) Disk Category and Volume Number;
c) Blank Diskette(s) or request to utilize a new disk (member will be charged $2.50 for the new disk);
d) Copy fee ($1.00 per diskette side unless you donate a program you have written at the same time and fill out a Progam Submission Form). Only complete sides of disks will be copied.
e) Instructions on how the disks are to be returned, i.e., at the next meeting, by mail, etc. (IF RETURN IS TO BE BY MAIL PLEASE BE SURE TO INCLUDE A STAMPED, SELF-ADDRESSED FLOPPY DISK MAILER, AND $2.50 TO COVER SHIPPING COSTS).

DISK OF THE MONTH-

Each month a collection of some of the best programs donated to APPLE PI during the preceding month are made available. The DOM can be purchased at any group meeting or by mail.

DUES-

Current membership dues are $18.00 per year, with a one-time application fee of $10.00. Checks should be made payable to APPLE PI.

PRESIDENT STUFF

Yes, here's yet another article from your club president.

Despite what people may say, we really don't use whips & chains to prod volunteers. We stopped doing that over a year ago. I remember way back (when I was a young vice president with a full head of hair), a wise old sage shared with us the secrets of motivation. Now we rely on a formula of praise and recognition. Sometimes trinkets and token gifts get thrown in, but the most important reward is hearing 'thanks', from the membership.

So even if you can't find the time to contribute yourself, you can at least help out in a very big way by thanking others for their volunteer work. The person who sells you supplies, the person who gets this Seed to you, the person who gives you a library disk, they all deserve a hearty 'thanks' from you! The more thanks they get, the better job they'll do, and the more volunteers we'll have next time.

Volunteerism has been great this year, and we should try to keep it that way. There are volunteers working on new bylaws, a volunteer working on new classes, volunteers working on getting business members, a volunteer accountant, and more. We can all be proud that last months' 13 page seed was made entirely from member contributed articles. A preliminary count of Les Shaws' directory questionaires (another voluntary job) shows 26 people who would be willing to run for office next year!

Won't you join in? We have lots of newcomers who have recently volunteered. It's a great way to make friends because it's such an open group. The current officers are really a diverse collection of friendly people, and most of us never met each other until the last elections brought us together.

In conclusion, the pay is lousy, but the friendships and the 'thanks' make volunteering worth it!

Here are a few things that need doing:

1. Help Les Shaw make the club directory. Call him at 499-0946

2. Be the club's 'general counsel'. (Any lawyers out there? What would a retainer cost us?)

3. Start a file of product reviews.

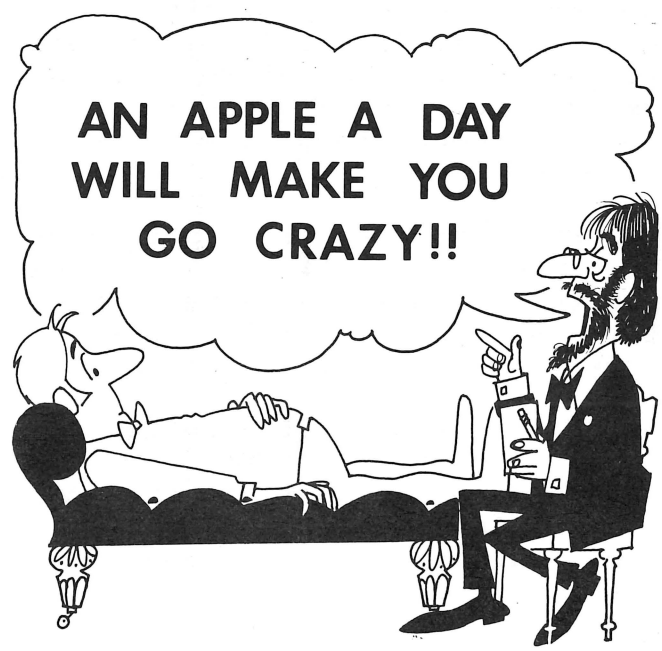
4. Contribute to the Seed. Reviews? Beginner articles? Q & A column?

5. Become an Apple Pi teacher? any level. Make $$$ too.

6. Be appreciative of those who do volunteer.

Please call me or another officer if you can help out. Thanks!

- d. eisler 694-6217



SECRETARY'S REPORT

The meeting was called to order by President Dave Eisler on Oct. 5, 1983 at 7:05pm at the Greene Center, Colorado School of Mines. President Eisler presented two motions to be voted upon by the general membership.

MOTION 1: Apple Pi should start to have paid classes for its members.
The Motion was approved.

MOTION 2: Apple Pi should allow individual companies to sell their products at our meetings on a rotating basis.
The discussion which followed brought out the following points. We do not want the meetings to become flea markets, but some selling is a convenience for the membership. The number of vendors at any given meeting should be limited.
The Motion was approved.

President Eisler made several announcements:

--Ron Dries, of Jefferson County Schools, will present next month's program.

--Tom Margrave has volunteered to head the new Bylaws Committee and may be contacted at 985-0282 by members who have questions or comments regardisng the revision of the bylaws.

--Les Shaw has reported that 26 of the members filling out the Directory Questionnaire have indicated their willingness to serve the club as officers.

--The Club needs help in several areas right now: SEED contributors (either in the form of writing original articles, help selecting articles from other newsletters for inclusion in the SEED, product reviewing etc.), tutors, etc. We also need a lawyer who would volunteer his time to serve as a registered agent for the club.

--KBDI (channel 12) has requested that members of Apple Pi volunteer to answer phones at their upcoming pledge drive. A show of hands indicated no interest.

In conjunction with the announcement about the Bylaws Committee, a motion was made from the floor:

MOTION 3: Bylaws should be included in the new membership materials packet.
The motion was approved.

Other announcements included:

--Dave Nelson, Secretary, announced the A.P.P.L.E. offer, allowing members of Apple Pi to join through the club at a reduced rate (amounting to $25. instead of $40. for the initial year's membership), and an offer from IAC for a discount on Applewriter II (* $50.) which was later rescinded when a member announced that Cosmic Computing (a California mail order house) was selling them for $14.

--Bob Hein, Librarian, asked members to bring in their catalog diskettes for updating.

--Ron Cooper, representing Alph Micro User Society, announced a SWAP at the Hilton Harvest House in Boulder on Oct 14-15. He offered the club a table for trading or dispensing information. Bob Vitry (Friday) and Bill Gunderson (Saturday) headed the list of volunteers to staff it.

--Ron Heath reminded members of the Newcomers Group which meets each month just before the general meeting (6:30).

CONTINUED. . .

SECRATARY'S REPORT CONT...

--Bob Vitry announced a hardware modification which he is making available to the membership at a special price. It is a switch to override the write-protect mechanism on disk drives, and Bob will either install the switch himself, at a nominal cost, or show members how to do it for themselves.

Bob Hein demonstrated the disk of the month.

The door prize, CALC STAR, was donated by Computer Connection of Boulder and was awarded, via our new computerized drawing program, to Tom Haycraft.

Because no program had been planned, an impromptu panel, consisting of Bob Vitry, Andy Schmidt, Trent Hein and Bob Bigelow, was formed to field questions from the membership. Topics covered included hardware, modems, tips on running programs, and LOGO.

The meeting was adjourned at 9:10pm.

APPLE·PI *'BUG'* OF THE MONTH

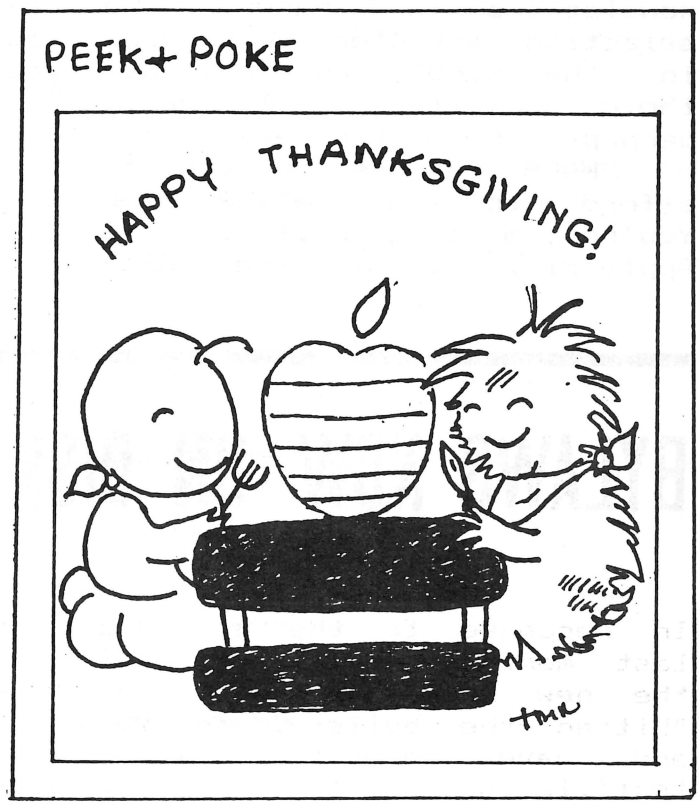
THIS MONTH THE BUG OF THE MONTH
WILL GO TO APPLESOFT BASIC
FOR HAVING THE BAD TASTE OF
NOT SUPPORTING "PRINT USING"!!!

TELECOMMUNICATIONS

DENVER BBS NUMBERS

Apple Pi	469-7541
Aurora-Net	343-84Ø1
Biz-Net	798-8176
Cheyenne Mountain	753-1554
Computer-Line	758-3441
The Controller Board	69Ø-9423
GBBS II	693-1Ø64
Lakewood RCPM/RBBS	985-11Ø8
The Neutral zone	985-9184
Off the wall	443-3367
PETULA	232-85Ø9
RB Robot/IBMPC	279-5657
RCPM/RBBS	499-9169
Remote North Star	444-7231
TBBS#1 (Apparat)	741-4Ø71
TBBS#2 (UFONET)	278-4244
TBBS-Software Review	695-4518
The Testing Zone	427-7114

For corrections, contact T.R. Hein
at (3Ø3) 424-8357

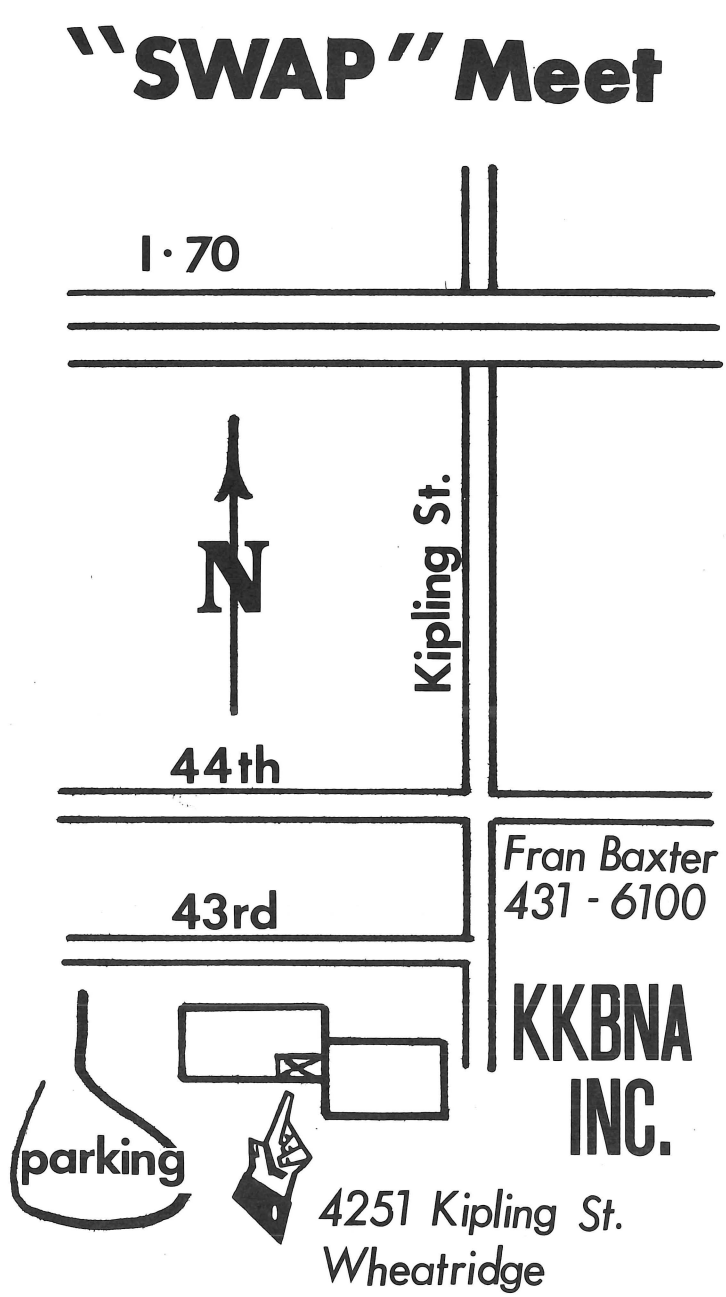


SWAP MEETS
By T.Nelson

As I look about at the general meetings and see the great crush of members, alternately queing and churning before the sales counter, I shudder and wonder why more people don't opt to do their buying in the relatively calmer and less cluttered atmosphere of the Sunday SWAP meet.

If you haven't been to SWAP meet lately, you really should give them a try. Perhaps the name SWAP confuses some members who may feel that should have something to swap in order to attend. Actually the swaps are more like informal meetings, they provide a place for members to exchange ideas, provide help to one another and have real input into the workings of the Club. (For example, the recently appointed Bylaws Committee was generated at a SWAP Meet)

At the SWAP Meets, members have access to the club library, may peruse the month's haul of exchange newsletters (and have a hand in selecting articles to be reprinted in the SEED), and may purchase their supplies at leisure. But perhaps the most pleasurable aspect of SWAPS is the opportunity they afford to meet fellow members. You're missing half the fun of Apple Pi if you miss the SWAP!



BYLAWS NOW ON DISK

By T. Nelson

In response to the motion passed last month to include Bylaws in all the new member packets, we have "bitten the bullet", so to speak and have entered them into a textfile which will now be placed on the flip side of all newcomers' disks. Trent Hein has added a special program to this disk so that the textfile can be either displayed on a monitor or sent to a printer. It can also be accessed by Applewriter II or any other wordprocessor that uses a textfile.

Other club members who wish to have a copy of the bylaws, may do so by bringing an initialized disk to the Secretary at either the November or December general meetings.

PASCAL

THE CASE OF THE BLOWN DISK

by Jim Wrenholt

Reprinted from The Scarlett Letter Published by the Big Apple User Group

I've been spending my spare time lately learning my way around the Pascal system on my Apple. After reading through an introductory book on the subject, I thought myself ready to study some actual Pascal programs. Well, after five minutes of fiddling around I succeeded only in obliterating my disk's directory. I still don't know what magical set of keystrokes causes the disaster.

Being a veteran of such DOS catastrophies, my first thought was to get out my Disk ZAP and fix the disk. Pascal lives on the disk in 16 sector format so that my ZAP (track/sector read/write routine) is capable of reading it. After spending a little time looking, I became convinced that my program's textfiles were still intact and that only the directory was messed up.

Now to rebuild the directory. First I needed to discover the layout of the directory. Pascal is not DOS and the Pascal referance manuals are not as complete as the DOS manuel either. So scrounging through my old magazines, I turned up an article in CALL APPLE from March/April 1981 that showed how the directory is formatted on the disk.

All that is needed is a name and the beginning and ending block number. Pascal numbers are stored in consecutive blocks so there is no track/sector list to locate. But since Disk ZAP deals in tracks and sectors the real challenge became to discover how the block numbers are mapped onto the track/sectors. The results of my sleuthing are shown in the following table.

BLOCK #	FIRST TRACK/SECTOR	SECOND TRACK/SECTOR
x0	y/0	y/E
x1	y/D	y/C
x2	y/B	y/A
x3	y/9	y/8
x4	y/7	y/6
x5	y/5	y/4
x6	y/3	y/2
x7	y/1	y/F
x8	z/0	z/E
x9	z/D	z/C
xA	z/B	z/A
xB	z/9	z/8
xC	z/7	z/6
xD	z/5	z/4
xE	z/3	z/2
xF	z/1	z/F

Where y = 2 * x and z = 2 * x + 1

It turns out that this block number to track/sector mapping is rather twisted. Remember that it takes two sectors for one block.

To convert from block number to track/sector you must think in hex, or at least convert. For instance, to find block number $53 on the disk, find X3 in the first column. Then X is $5 in our case. Now double X to get Y, Y = 2 * X = 2 * $5 = $A. Finally, the next two columns give the track/sector pair, Y/9 and Y/8. In our example Y = $A, so sectors 9 and 8 on track $A are the desired locations.

As another example, let's locate block $3C. First, locate XC in the first column. Using the formula, X = 2 * 3 +1 = 7 so the block is found on sectors 7 and 6 of track 7.

To go the other way you must decide if the track is even or odd.

Pascal cont...

If the track is even, use the top half of the chart; if odd, use the bottom half.

For an example of this, let's find the block corresponding to track/sector $0C/$0F. First $0C is an even number so use the top half of the table. Next X = $0C/2 = $6. Locating Y/F in the top half and moving over to the first column shows that track/sector $0C/$0F is the second half of block number $67.

There is just one more thing to be remembered. When you find the start of your actual text on the disk you need to back up 2 blocks to leave room for the header which is at the start of all text files. For more information see the Apple Pascal Reference Manual 3.2.1. The Format of Text Files.

Now to rebuild the directory. First make a backup of your disk. I use COPYA from the DOS System Master for this. Of course, if I would have backed up in the very beginning I would not have had to go through all of this, but that's hindsight. Any direction modification of sectors is considered dangerous so we need to back up now for sure.

The Pascal disk directory is divided into entries that are 26 (decimal) bytes long. The first 26 bytes are for the disk volume name. Each subsequent group of 26 bytes is for an individual file. The directory starts on track $0, sector $B and extends downward. There is room for up to 77 file names.

THE FIRST 26 BYTES

BYTE #
1,0 START OF DIRECTORY
3,2 END OF DIRECTORY BLOCKNUMBER
5,4 ALWAYS ZERO
6 LENGTH OF DISK VOLUME NAME
7-13 DISK VOLUME NAME STRING
15,14 NUMBER OF BLOCKS ON DISK
17,16 ENTRIES IN THE DIRECTORY
19,18 ALWAYS ZERO
21,20 CURRENT DATE
23,22 ALWAYS ZERO
25,26 ALWAYS ZERO

INDIVIDUAL FILES

BYTE #
1,0 BLOCK START NUMBER
3,2 BLOCK END NUMBER
5,4 FILE TYPE:
2=CODE, 3=TEXT, 5=DATA
6 LENGTH OF FILE NAME
7-21 FILENAME STRING
23,22 NUMBER OF BYTES IN LAST BLOCK
25,24 FILE DATE

As an example, I have included a sector dump of my Apple 1 diskette. Notice, as usual, the low order byte is first. Also the ending block number is really the beginning of the next file or one block past the actual end of the text file.

Let's look at the initial 26 bytes first. The start of the directory is 0000, or block zero. The end of the directory is 0600, or block six. Next we find two bytes of filler, 00 00. Now 06 is the length of the volume name. The volume name itself appears as shown below.

41	50	50	4C	45	31
A	P	P	L	E	1

Next comes three more filler bytes 00 18 01, followed by a 0A00 which shows that there are 10 file entries in my current directory. Two more bytes of filler, 00 00 are followed by the current date in Pascal format, 2C A5. The next four bytes are again filler.

The first individual file is my SYSTEM.APPLE is broken down like this. The starting block number is

Pascal cont...

six, 06 00. The ending block number is thirty-eight or hex $26, 26 00. The file type is 05 00 which indicates a data file. The length of the data file is twelve, $0C. The file name string is:

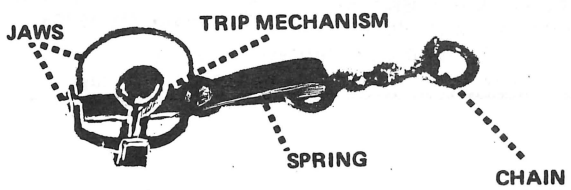
```
53 59 53 54 45 4D 2E 41 50 50 4C 45
S  Y  S  T  E  M  .  A  P  P  L  E
```

There are a remaining three bytes of filler 00 24 67. The maximum length for a file name is fifteen bytes. The number of bytes in the last block is 00 02, which says all the bytes in the last block are used. Remember 00 02 is low order byte first, so it stands for 2 * 256 = 512 bytes which is a full block. This was the case for all the text files I have dealt with. Finally there are two bytes for the file date, 9B A0.

These examples will serve as an entrance into the understanding of how Pascal formats information in track/sector blocks. Back up your disks and you will need not to use this information in desperation.

Another Facinating Invention

When I came across the Byte Bat (demonstrated at the September General meeting) I thought I had come across the greatest computer problem-solver ever made. Now there is a new product that is much more effective at trapping computer errors. This super little device is compatible with all hardware, software, and courseware. It can handle all bugs and errors with a single snap. And, best of all, it works without any batteries or other form of electricity. What can do all these things? The Original Bug Trap, of course! Come see it demonstrated at the November General meeting!!!!!



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Thank you!

The Denver Apple Pi Users Group wishes to gratefully acknowledge the support of the following businesses that have purchased a business membership:

COLORADO COMPUTER SYSTEMS, INC.
3005 W. 74th Ave.
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(303) 426-5880

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P.O. Box 35
Evergreen, CO 80439
(303) 674-2385

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(303) 988-9140

THE COMPUTER LINE
1136 S. Colorado Blvd.
Denver, CO 80222
(303) 758-3261

When you visit any of these stores, let them know that you are an Apple Pi member, and tell them you appreciate their support.

****

NOVEMBER GENERAL MEETING

THE GUEST SPEAKER WILL BE

RON DRIES
OF THE JEFFERSON COUNTY SCHOOLS

HE WILL TALK ABOUT THE USE AND IMPACT OF COMPUTERS IN SCHOOLS

LIBRARIAN'S REPORT

For all of those who have requested, the inverse and special control codes which were used in making the catalog listing more interesting have been deleted to allow members to list the catalog on their printers. Thanks to Trent Hein, we now have a labeler program for your Pascal disks. This new labeler make a label very similiar to the ones used on the disks-of-the-month. We are still in need of someone to generate a similiar program for the CP/M DOMs. Also, there is a need for a volunteer who is into CP/M to help generate the monthly CP/M DOM. If you are interested, contact the librarian.

For November, you will find that the disk-of-the-month contains some programs to help you with your preparations for Christmas. In addition there is a program on Murphy's Laws to assist everyone. Programs on the November DOM are as follows:

#040 NOV. 1983 DOM

APPLE PI DOM - SUPER BLAST	WORD GAMES	
PROBABILITY MACHINE(O	NEWTON	DOGFIGHT (A MATH GAME
SHOW SHUTTLE	INVENTATOR(INVENTORY	CBBS
INPUT ANYTHING	CHRISTMAS CARD LIST	STORY TELLER
CONSECUTIVE REACTIONS	TABLE OF ELEMENTS	SPELLING LESSON
MURPHEY'S LAWS	AWARENESS TEST	TOUCH TYPING
HRP'OBJ	SHUTTLE.PIC	

For all of you with children in elementary school, IAC has recently released an education disk which is ideal for math drills and working with fractions. This disk is in the club's library and is listed as IAC #24. For all of you who have been asking about a good math educational disk, this should be one.

Finally we have modified the catalog disk program to have the numbers of the disks which is viewed or printed to be the same as the disk numbers which are actually on the library disks. Most of you know that there has always been some confusion due to their being repetitive numbers in the various MF files. This has been corrected and when you get your catalog disk updated, your disk volume numbers will now match. Remember, all catalog disks need to be updated.

TREASURER'S REPORT

Previous Bal. (24 Aug 83)	$4,138.37
INCOME	
New Memberships	336.00
Renewal Memberships	144.00
DOM Sales	490.00
Library Copies	151.00
Sale of Supplies	2,642.00
Advertising	88.00
Interest Earned	19.58
Cash Over on Sales	54.00
Total	3,924.58
EXPENSES	
P.O.Box Rental (1 year)	45.00
Apple Pi BBS Phone Bill	35.84
Postage	3.00
Rent on Metals Hall (Jul-Dec)	840.00
Supplies	2,930.22
Total	3,854.06
ENDING BALANCE	4,208.89

EXPRESS YOURSELF!

SPECIAL OFFER: Silk-screened T-Shirts and hats made just for *COMPUTER ENTHUSIASTS!*

SHIRTS are high-quality, US-made, and hand-screened with your choice of:

(S2 athletic grey) (S4 navy) (S5 orange)

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(H1) (H2) (H3)

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HIS'N'HERS SPECIAL: Set of 2 burgundy shirts. One says HARDWARE; other says SOFTWARE. $11!

TO ORDER: Shirts come S, M, L, XL or L Child. HATS are in Navy or Red. Send Name, Address, shirt sizes/ hat colors & imprints desired. Add $1/order for P+H and mail to:

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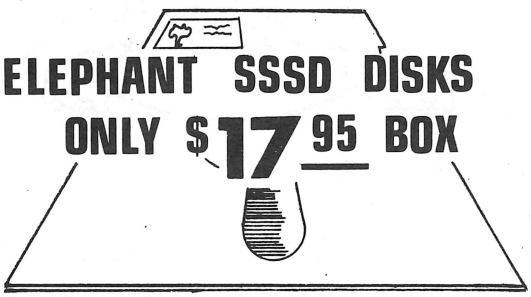
Satisfaction Guaranteed or Money Back!
Offer ends 1/15/84. Order soon for holidays!

WE'RE MOVING !!!

(AROUND THE CORNER)

FREE DRAWING FOR A $1995 **apple //e** STARTER SYSTEM



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Nov. 11-21

DO..... RE..... MI.....

by: T. R. Hein

Recently, there has been a lot of talk about Modems. It has come to my attention that a lot of new computer users don't even know what a modem is. I set forth here to clear up that problem.

Modem stands for MOdulator/DEModulator. It allows computers to communicate with other computers over a standard phone line, just like the one you have at home. Modems, like any other device such as a printer, are ranked according to speed, and other characteristics. Modem speed is usually expressed in BAUD. The baud rate is how many bits (1/8 of a byte) the modem can transfer in 1 second. For example, a modem with a speed of 3ØØ baud can transfer 3ØØ bits in a second, or about 37 characters per second. Standard speeds for modems are 11Ø, 3ØØ, at 12ØØ baud.

Another important characteristic is protocal. Protocal is how the modem communicates. Protocals are like different languages. If you are not using the correct protocal, nothing makes sense. Standard protocals are Bell 1Ø3, 2Ø2, and 212. For example, Bell 212 protocal is a modem running at 12ØØ baud and Full-Duplex.

Now you say 'What is Full-Duplex?' Full Duplex (also called Remote Echo) is a system that when you press a key on your keyboard, it is immediately sent to the other computer you are communicating with. The other computer then sends the exact same character back to your computer which then prints it on the screen. This is done so the you can verify that the two computers are communicating properly. Half-Duplex (also called Local Echo), on the other hand, does not verify the characters. When you press a key on you keyboard, your computer prints in on the screen and then sends it to the other computer. Here is what can happen if you have your duplex set wrong:

a) If your computer is set in Full-Duplex mode, and the other computer is set in Half-Duplex mode, you will see nothing when you type because your computer is expecting the other computer to "echo" the characters back to it, and therefore doesn't print them on the screen itself.

b) If you computer is set in Half-Duplex mode, and the other computer is set in Full-Duplex mode, you will see two identical characters for every character you type because your computer prints the character on the screen, sends it to the other computer, and then the other computer sends it back to your computer, which, once again, prints it on the screen.

How does a modem connect to the phone line? A direct-connect modem has a cable that plugs directly into a phone jack in your home. With an acoustical modem, your phone's handset rest on the modem itself.

When choosing a modem, you need to consider what <u>you</u> will use it for. Over-buying or under-buying can be the death of an otherwise good modem.

LOGO SURPRISE !

by: T.R. Hein

For this month, I have a LOGO program that will interest almost all the residents of Colorado. I won't tell you what it does, I'd rather have you find that out for yourself (remember: all programs shown are written in Terrapin LOGO). Here it is:

```
TO SURPRISE
 HT HOME
 PU FD 100 LT 90 FD 100 PD
 PD LT 90 FD 150
 LT 90 FD 200 LT 90 FD 150 LT 90 FD 200
 PU RT 90 FD 15 LT 90 BK 60 PD LT 90
 FD 10
 LT 90 FD 5 LT 180 FD 5 RT 90 FD 10
 RT 90 FD 5 PU FD 5 PD FD 5 RT 90 FD 10
 RT 90 FD 5 RT 90 FD 10 RT 90 FD 5 PU
 FD 5 PD RT 90 FD 10 LT 90 FD 5 RT 180
 FD 5 RT 90 FD 10 RT 90 PU FD 10 PD
 REPEAT 2 [FD 5 RT 90 FD 10 RT 90]
 FD 5 PU FD 5 RT 90 PD FD 11 LT 180
 FD 11 RT 90 FD 5 RT 90 FD 4 RT 90 FD 5
 LT 135 FD 10 PU LT 45 FD 3 LT 75 PD
 FD 12 RT 145 FD 13 LT 180 FD 5 LT 70
 FD 4 RT 180 FD 4 PU FD 5 RT 90 FD 4
 RT 180 PD FD 11 RT 135 FD 6 RT 45
 FD 3 RT 45 FD 6 RT 45 LT 90 PU FD 2
 LT 90
 FD 9 RT 270 FD 3 PD
 REPEAT 2 [FD 10 RT 90 FD 5 RT 90]
 PU HOME FD 50 RT 90 FD 20 PD
 REPEAT 30 [FD 1 RT 20] PU HOME
END
```

Koalapad

by Earl H. Benser

A Review of the KoalaPad Touch Tablet
Produced by Koala Technologies Corp.
Los Altos, Ca.

In the July issue of Mini'App'les, there was a comment that the KoalaPad was the greatest graphics tool since sliced bread. I'm not a major graphics nut, but for a long time I have been trying to figure a way to get the Apple Graphics Tablet (FCC to the contrary). The price, even at cost, however, was more than the wallet would bear. So when I saw this first response to the KoalaPad, I had to at least give it a look. Some look... I watched one in action for about five minutes and then bought it. That was the beginnings of a rough evening. It was about 2 A.M. before I got too tired to continue playing with it.

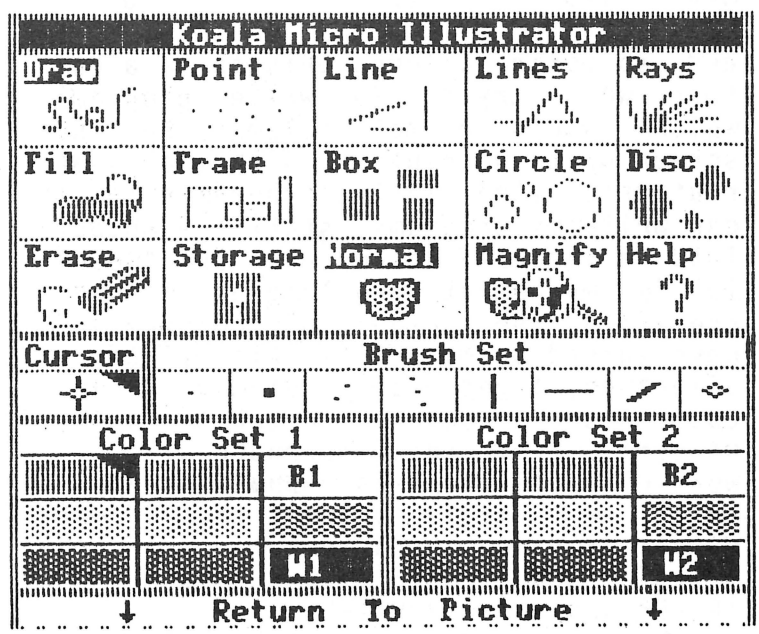
In a nutshell, the KoalaPad is a 4 inch or so square touch sensitive surface which translates the position of a special stylus (or your finger) into position codes for input into the game port. It is essentially a 'solid state' joystick. That's nice, but with the software that comes with the KoalaPad, you can do amazing graphic details.

When the software disc boots, it places a graphics menu on the screen. (Please use a color TV or monitor, b&w just doesn't do it justice.) The items on the menu are selected by using the KoalaPad to position a displayed cursor over the item of your choice, and pressing the left control button (PB0?). The menu provides various point and line drawing options, with various "brushes", to generate straight and freeform lines, options to generate square and circular frames, with and without filled interiors, an option to fill the interior of a drawn irregular area, and both "erase" and "store/load" options. Graphic can be done on the normal full screen, or on a 7X magnified screen. Two sets of colors are provided, with nine colors each, which can be used for any selected draw or fill mode. In the "erase" option, the erased screen can be left solid with any of the 18 colors available (actually 16, since black and white are common to both sets).

For the most part, the KoalaPad just lets you do your thing, the way you want to do it. Within a few minutes of starting, the operation of the KoalaPad and the menu become almost second nature. And it's all too easy to start dreaming of becoming a digital Rembrandt. (Now you also begin to wish that Apple had superdetailed graphics capability.) One of the first lessons learned appears to be that certain color options don't necessarily go well side by side. Strange colors can begin to show up at the boundaries, due to Apple's color coding techniques. Also, when you want to fill areas on the screen, the first color works, but trying to overfill with a second color works sometimes, and sometimes not. There appears to be a priority sequence that I haven't quite figured out yet. (Maybe I should take time to read the instructions?)

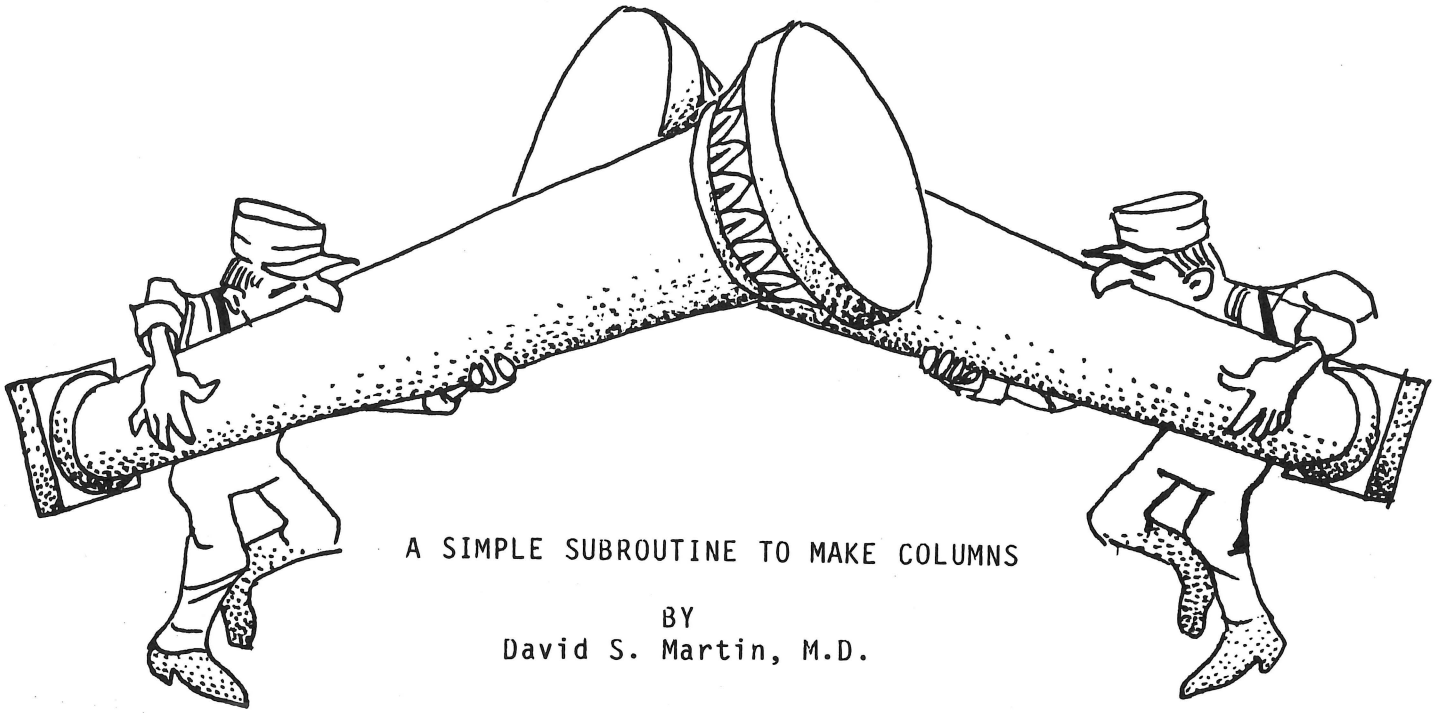
Speaking of instructions, they are brief, but effective, and not really necessary. It's very easy to get the hang of the functions just from playing with the KoalaPAd, and everyone will do that.

The KoalaPad will work with any graphics image available on disc, no matter what the source. It can be used for titling, but I would suggest using another program, such as the Beagle Bros. version, for text work. With the KoalaPad, in the 'magnify' mode, it takes very steady nerves to get the letters aligned and proper.



GOTO 17

To Make columns...



A SIMPLE SUBROUTINE TO MAKE COLUMNS

BY
David S. Martin, M.D.

In many programs written as programming utilities or as business output, or for other reasons, it becomes necessary to have columnated output as follows.

SALES	NET PROFIT	%OF GROSS
JAN 100	20	5
FEB 150	22	7
MAR 125	20	6

and so forth. I found this to be a bother when trying to write programs which would center columns on the screen or to a printer. With the subroutine listed in the program below I can write my programs, stuff the output into a variable called -M$- and "GOSUB 10" for my output. As long as I have specified the number of columns and have turned on my printer (in my case a Silentype) I get nicely columnated output. Doug Stinson, my editor tells me, however, that this approach will not work with all printers. What is needed, he tells me is to ouput the correct number of space characters.

```
1 TEXT : HOME : GOTO 1000
10 REM CENTERING ROUTINE
11 REM PL% AND DN% ARE SET BEFORE ENTRY
12 REM
13 REM PL%==NUMBER OF COLUMNS/LINE
14 REM DN%==NUMBER OF COLUMNS TO BE
    CENTERED
15 P1% = 36:P2% = P1% + 1:S% = 32:CV% =
    PEEK (P2%):L1% = LEN (M$):L2% = L1%
    / 2:FL% = PL% / DN%:
20 IF NOT FF% OR FF% > DN% THEN FF% = 1
25 FE% = FL% * FF%:FC% = FE% - FL% / 2
30 FO% = (L1% > FL%)
35 IF NOT FO% THEN POKE P1%,FC% - L2%:
    IF FF% = > DN% THEN PRINT M$: GOTO
    55
40 IF NOT FO% THEN PRINT M$;: GOTO 55
45 FOR LL = 1 TO L1%: IF MID$ (M$,LL,1)
    < > CHR$ (S%) THEN NEXT : POKE
    P1%,(FC% - L2% / 2) + 1: PRINT
    LEFT$ (M$,L2%): POKE P2%,CV% + 1:
    POKE P1%,(FC% - L2% / 2) + 1: PRINT
    RIGHT$ (M$,L1% - L2%): POKE
    P2%,CV%: GOTO 55
50 POKE P1%,(FC% - ((LL - 1) / 2)) + 1:
    PRINT LEFT$ (M$,LL):  POKE P2%,CV%
    + 1: POKE P1%,(FC% - ((L1% - (LL -
    1)) / 2)) + 1:  PRINT RIGHT$
    (M$,L1% - LL): POKE P2%,CV%:
55 FF% = FF% + 1: NORMAL : RETURN
1000 VTAB 3:PL% = 40:DN% = 4:M$ = "APPLE
    COMPUTER": GOSUB 10:  VTAB 3:M$ =
    "COMPUTER APPLE": GOSUB 10: VTAB
    3:M$ = "APPLECOMPUTERS": GOSUB 10:
    VTAB 3:M$ = "APPLE COMPUTERS":
    GOSUB 10
1001 GET A$
1002 END
```

HTABBING IN 80 COLUMNS

by John Wrenholt

When I first purchased my Apple IIe, one of the first "bugs" that I discovered was that the Applesoft command HTAB didn't work properly in the eighty-column mode. If you have an Apple IIe, you can see what the problem is by running this short program:

```
10  TEXT : HOME
20  PRINT CHR$(4);"PR#3" : REM TURN ON THE 80-COLUMN FIRMWARE
30  HTAB 10 : PRINT "THIS HTAB DOESN'T WORK."
40  HTAB 10 : PRINT "BUT THIS ONE DOES,"
50  HTAB 50 : PRINT "AND THIS WILL NEVER WORK."
```

I checked the manual for the eighty-column text card and sure enough, someone from Apple had also noticed the problem. While the manual did not actually call the problem a bug, it did suggest a solution. Use POKE 1403,X instead of HTAB X whenever you are working with the 80-column card. That sounded like a reasonable solution and a little testing showed that it did indeed work. Now that I had a solution to the problem, I suppose that I should have considered the case closed, but I just couldn't help but wonder, "What did memory location 1403 have to do with the 80-column card?"

A quick look at a memory map for the Apple IIe showed that memory location 1403 was right in the middle of the text screen display area! Now I was really curious. After some snooping around in the Apple Reference Manual, I found the answer. The manual states, "Each peripheral card which uses a slot in the Apple is allocated eight bytes of memory. These 56 bytes (8 bytes * 7 slots) of main memory are located in the RAM memory reserved for text and low-resolution graphic displays, but these particular locations are not displayed on the screen. Programs in ROM on peripheral cards are able to use these locations for temporary data storage." In other places in the manual, I found these memory locations referred to as either "scratch pad memory" or "screen holes".

What all this means is that each peripheral card slot in an Apple II has 8 bytes of RAM that it can use without worrying about memory conflicts with other software. Figure 1 shows that you can find the location of any screen hole by taking the Base Address in the table and adding the slot number. This makes it possible for peripheral cards to run in any slot. In machine language a subroutine can directly reference any of its eight screen holes by loading the slot number into the Y-register and executing LDA $0478,Y, where $0478 is the desired base address.

FIGURE 1: APPLE SCREEN HOLES

BASE ADDR	SLOT NUMBER 1	2	3	4	5	6	7
1144	1145	1146	1147	1148	1149	1150	1151
1272	1273	1274	1275	1276	1277	1278	1279
1400	1401	1402	1403	1404	1405	1406	1407
1528	1529	1530	1531	1532	1533	1534	1535
1656	1657	1658	1659	1660	1661	1662	1663
1784	1785	1786	1787	1788	1789	1790	1791
1912	1913	1914	1915	1916	1917	1918	1919
2040	2041	2042	2043	2044	2045	2046	2047

As you can see by studying the chart labeled Figure 1, memory location 1403 is reserved for use with slot number 3. The 80-column text card uses this memory location to store its current horizontal cursor position. The problem occurs because Applesoft's HTAB is unaware of the 80-column text card, and continues to update the normal horizontal cursor position of 54 ($36).

I decided to write an ampersand (&) HTAB routine which would work with either the 40 or 80-column displays. The program turned out to be rather simple as you can see from the listing. As written, it will work only with the Apple IIe 80-column text card, but it could easily be adapted to work with other 80-column cards such as Videx.

The Applesoft listing demonstrates how you can use &HTAB is your own programs. Since it includes POKEs for the machine language subroutine, there is no need to type in the assembly language listing if you just want to use the routine as it is written.

```
                1000 *--------------------------------
                1010 *      &HTAB FOR APPLE ][e
                1020 *      STARTED FEBRUARY 1983
                1030 *--------------------------------
 057B-          1040 HTAB.POS            .EQ $057B
 C01F-          1050 COL80.STATUS        .EQ $C01F
 DECO-          1060 SYNCHR              .EQ $DECO
 E199-          1070 ILLEGAL.QTY.ERR     .EQ $E199
 E6F8-          1080 GETBYT              .EQ $E6F8
 F7E7-          1090 AS.HTAB             .EQ $F7E7
                1100         .OR $300
                1110 START
 0300- A9 96    1120         LDA #150     TOKEN FOR HTAB?
 0302- 20 C0 DE 1130         JSR SYNCHR   NO.. THEN SYNTAX ERROR
 0305- 20 F8 E6 1140         JSR GETBYT   GET VALUE INTO X-REG
 0308- AD 1F C0 1150         LDA COL80.STATUS ARE WE IN 80-COLUMN MODE?
 030B- 30 03    1160         BMI .2       YES... THEN .2
 030D- 4C EA F7 1170         JMP AS.HTAB+3 NO.. THEN LET HTAB HANDLE IT
 0310- CA       1180 .2      DEX
 0311- E0 50    1190         CPX #80      IS X¶80?
 0313- B0 04    1200         BCS .3       YES... THEN ERROR
 0315- 8E 7B 05 1210 .1      STX HTAB.POS NO...STORE X IN 1403
 0318- 60       1220         RTS          EXIT
 0319- 4C 99 E1 1230 .3      JMP ILLEGAL.QTY.ERR
```

```
10  HOME : TEXT
20  FOR X = 768 TO 795: READ A: POKE X,A: NEXT : REM  POKE MACHINE LANGU
    AGE ROUTINE
30  POKE 1013,76: POKE 1014,0: POKE 1015,3: REM  SET UP AMPERSAND
40  PRINT  CHR$ (4);"PR#3": REM  TURN ON 80-COLUMN DISPLAY
50  &  HTAB 30: PRINT "IT WORKS"
60  &  HTAB 30: PRINT "IT WORKS"
70  FOR X = 1 TO 70: &  HTAB X: PRINT "IT WORKS": NEXT
290  REM  MACHINE LANGUAGE ROUTINE
300  DATA  169,150,32,192,222,32,248,230,173,31,192,48,3,76,234,247,202,
    224,80,176,4,142,123,5,96,76,153,225
```

POINT OF INTEREST

BY PETER BERNSTOCK

FROM "CRAB APPLE BULLETIN" - NOV'82

Even with the Autostart ROM, there is a possibility that you will be working away at an APPLESOFT program and when you try to save the program on a disk, your Apple does not respond. After a few seconds (may seem like an hour), you receive the "SYNTAX ERROR" message. How come, you ask. The most likely reason is that DOS has NOT BEEN BOOTED. Don't get upset. There is a "fix" for this problem. The following routine will move the program which is currently in memory into a storage area, allows you to BOOT DOS, and then move the program from the storage area back into memory for additional work, or saving to disk.

1 - Type "PRINT PEEK (175), PEEK (176) (return)" to obtain two pointer values. We'll call these values V1 and V2.

2 - Write the values V1 and V2 down on a piece of paper. We'll need these values in step #11.

3 - Type "CALL-151 (return)" to enter the MONITOR. You will get an ASTERISK (*) as a prompt.

4 - Type "6000<800.377FM (return)" to relocate the BASIC program.

5 - Insert an INITIALIZED disk into your drive.

6 - Type "6 CTRL-P (return)" to BOOT DOS. This assumes that your drive is connected to slot 6. (CTRL-P means "Control-P"). This will also return you from the MONITOR to APPLESOFT.

7 - After the disk BOOTS, and the HELLO program runs, type "NEW (return)" to clear the memory.

8 - Type "CALL-151 (return)" to reenter the MONITOR.

9 - Type "800<6000.8fffm (return)" to retrieve the BASIC program.

10 - Type "CTRL-C (return)" to get out of the MONITOR and back into BASIC.

11 - Type "POKE 175, V1:POKE 176, 2 (return)". V1 and V2 are the two pointers that you wrote down in step #2.

You may now continue working on the program, or save it to disk.

CONT. FROM PAGE 13

The KoalaPad lists for $125, with the possibility of a somewhat lower net price. Either way, I think that it's one heck of a good deal just for the graphics capability. In addition, it supposedly can also work as a joystick for other programs; I tried that with less than total success, but that just might be me rather than the KoalaPad.

All in all, the KoalaPad is the best thing since sliced bread, as the Mini'app'les note said. If you've ever had a desire to try doing any graphics work, and even if you haven't had a desire, you'll get one as soon as you see the KoalaPad in action. (Editor's note: Earl Benser, and Mini'app'les have no connections with Koala Technologies Corporation. Also, your editor just bought one!)

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